

Case for Mock Trial; IP High Court of Japan

I. Mock Trial Case

On April 16, 2006, Pony Corporation (“Pony”) filed a patent application for an invention with the title of “Position detector” (the “Present Invention”), and on January 26, 2008, the establishment of a patent right for the Present Invention was registered (the “Plaintiff’s Patent Right”; the patent which Plaintiff’s Patent Right is based on is referred to as the “Present Patent”).

On April 1, 2020, Donkey Corporation (“Donkey”) started manufacturing and selling position detectors with the product name “D-Pointer” (the “Defendant’s Position Detector(s)”) and replaceable styluses (model “ST-10”; the “Defendant’s Stylus(es)”) compatible with certain models of position detectors.

On May 1, 2020, Pony sent Donkey a demand letter (the “Demand Letter”) notifying that Pony is the patentee of the Present Patent, describing the invention claimed in Claim 1 in the Scope of claims of the Present Patent (the “Present Invention”), claiming that the Defendant’s Position Detector with the Defendant’s Stylus attached falls within the technical scope of the Present Invention and that the manufacture and sale of the Defendant’s Position Detectors and of the Defendant’s Styluses respectively constitute an infringement of the Plaintiff’s Patent Right, and demanding the cessation of manufacture and sale of the Defendant’s Position Detectors and the Defendant’s Styluses.

In response, Donkey sent a written counterargument to Pony stating that neither manufacture and sale of the Defendant’s Position Detectors nor those of the Defendant’s Styluses by Donkey constitute an infringement of the Plaintiff’s Patent Right.

On August 17, 2020, Pony filed a patent infringement lawsuit against Donkey (defendant) seeking an injunction against the manufacture and sale of the Defendant’s Position Detectors and Defendant’s Styluses on the grounds of infringement of the Plaintiff’s Patent Right.

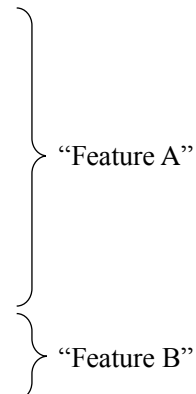
II. Scope of Claims

[Claim 1]

A position detector comprising:

a micro-movable stylus held in a predetermined stable position in an electrically insulated state; and
a main body including a contact detection circuit connected to the stylus, wherein contact between the stylus and a workpiece is electrically detected as a result of formation of a closed circuit including the contact detection circuit via the workpiece when a contacting portion of the stylus contacts the workpiece, and

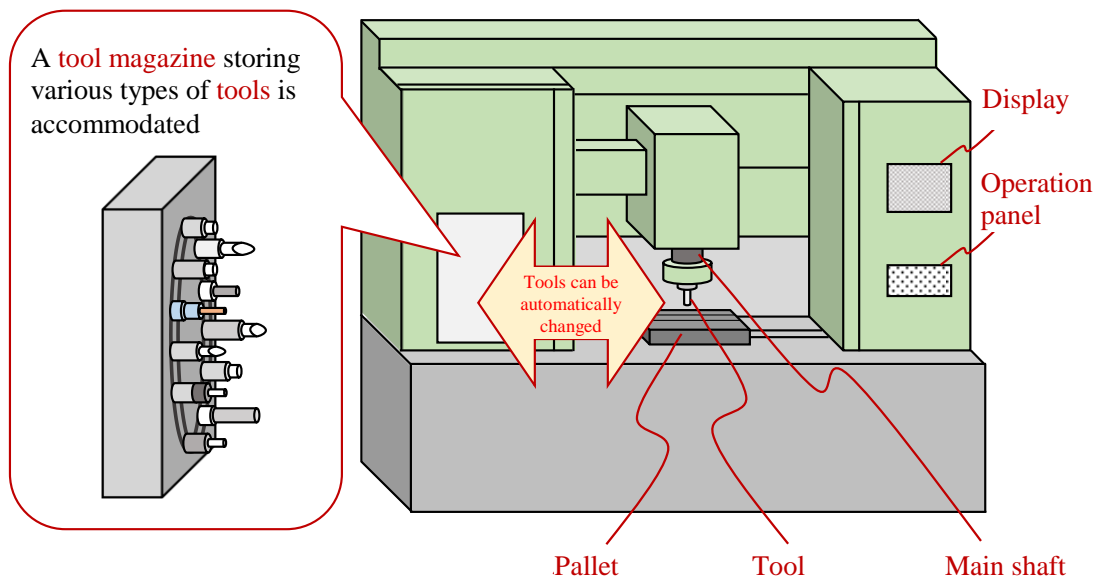
wherein the contacting portion of the stylus is made of a non-magnetic material containing tungsten carbide and a nickel binder.



III. Background Art (partly hypothetical)

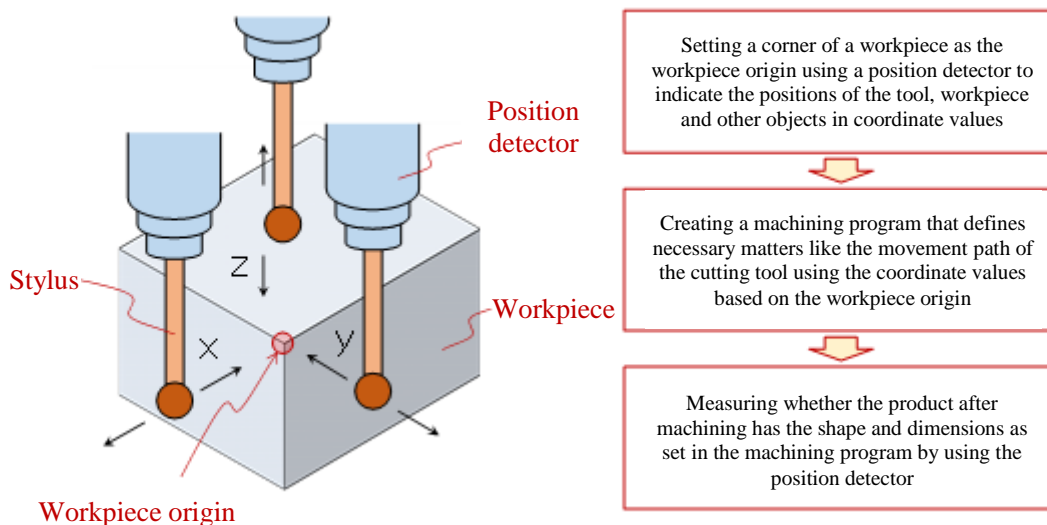
1. Machining center

A machining center is a machine tool that has an automatic tool changer enabling automatic change of tools and is equipped with a numerical controller. With a numerical control program, it can continuously perform various machining such as milling, boring, drilling, and thread cutting, by taking out the necessary tools from the tool magazine where various kinds of tools are stored, setting them on the main shaft of the machining center, and automatically replacing the tools.



2. Position detector

A device attached to the main shaft of a machining center and used to set the workpiece origin (the coordinates) and determine the machining position by contacting a workpiece before machining. It is also used for other purposes including measuring dimensions of a workpiece after machining with an accuracy on the order of micrometers. It is useful for realizing high-precision machining and preventing machining defects.



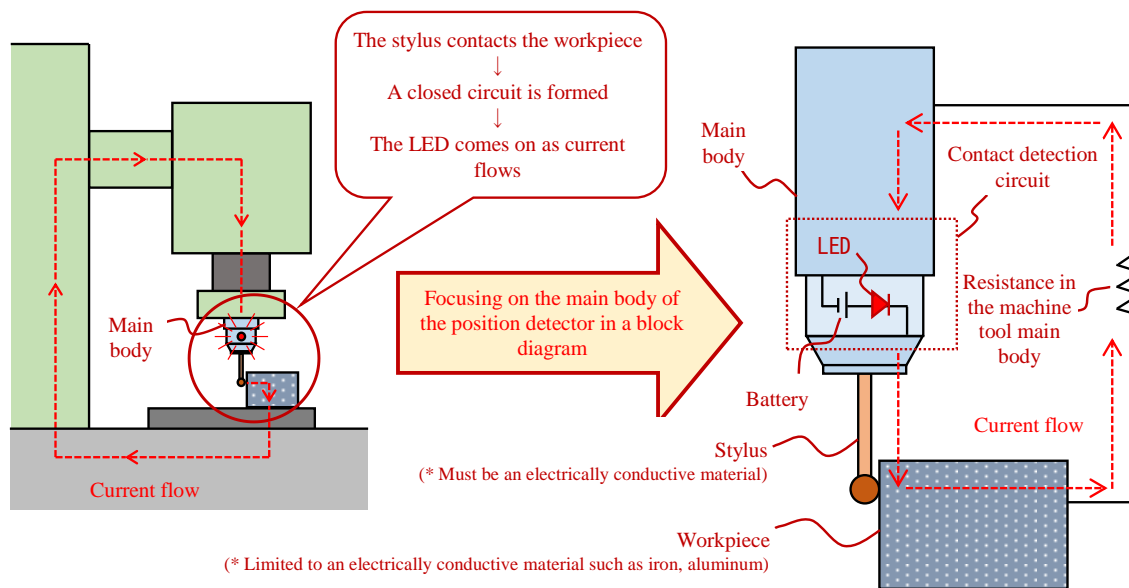
3. Stylus

A contact body attached to the main body of the position detector; also called a probe. It is composed of a rod and a contacting portion. The contacting portion attached to the tip of the rod repeatedly contacts workpieces. Therefore, a material harder than the material of the rod, such as cemented carbide or ruby, is often used for the contacting portion.

4. Measuring methods of the position detector

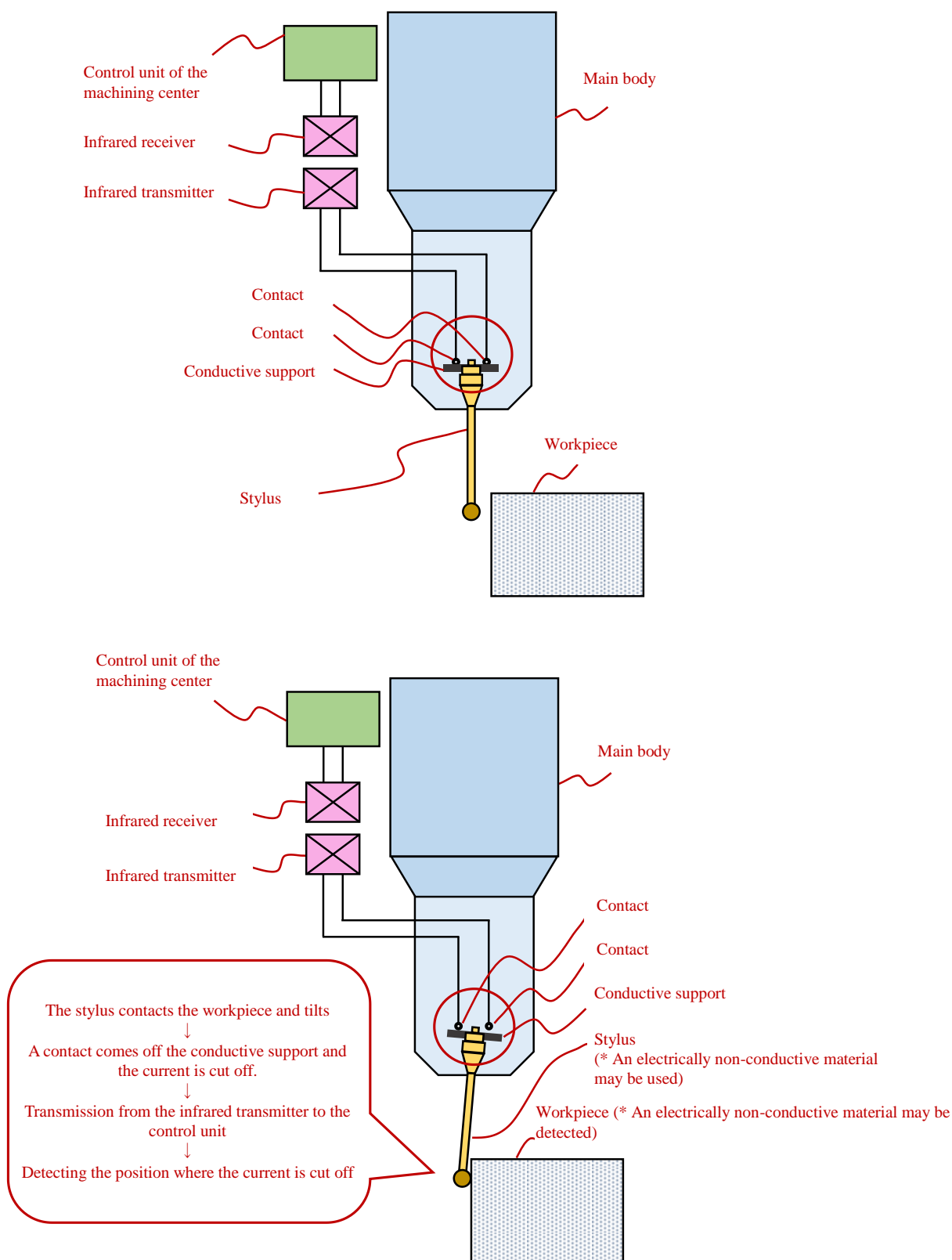
(1) “Energized type” position detector

When the contacting portion of the stylus contacts the workpiece subject to position measurement, a closed circuit is formed and current flows. The position of the workpiece is measured by detecting the current directly or via electromagnetic induction. This type of position detector cannot be used to measure the position of non-conductive workpieces. It is also called the external contact type.



(2) “Internal contact type” position detector

When the contacting portion of the stylus, which is energized, contacts a workpiece, the rod tilts and the energizing contact provided inside the position detector comes off and the current is cut off. By detecting the point where the current is cut off, the position is measured. This type of position detector can also measure the position of a non-electrically conductive workpiece because the stylus and the workpiece need not be energized when the contacting portion of the stylus contacts the workpiece. On the other hand, because the stylus needs to be tilted until the energizing contact is disconnected, the exact moment when the contacting portion of the stylus contacts the workpiece cannot be detected.



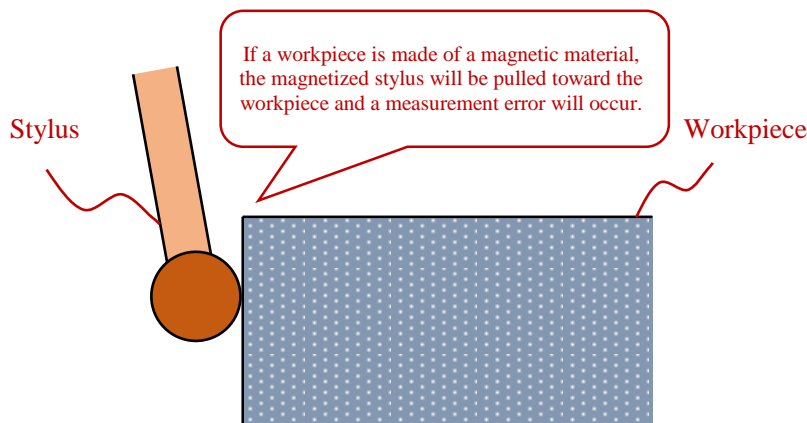
(3) Mechanism of position detectors

In both measuring methods of the energized type and the internal contact type, the detection of the workpiece position is informed to the operator by such means as LED

lighting or transmission to the machine tool by infrared rays when the contacting portion of the stylus contacts the workpiece.

In the energized type, both the rod and the contacting portion must be made of electrically conductive material.

In both measuring methods of the energized type and the internal contact type, a measurement error occurs when a workpiece made of a magnetic material is measured by using a magnetized stylus because it is pulled toward the workpiece as shown in the figure.



5. Tungsten carbide, cemented carbide

Tungsten carbide (WC) is a conductive compound composed of tungsten atoms (W) and carbon atoms (C), characterized by high rigidity and hardness.

Cemented carbide is a composite material obtained by sintering hard metal carbide with iron-based metal. One of the typical cemented carbides is a WC-Co alloy obtained by sintering tungsten carbide and cobalt (Co) as the bonding phase, which has excellent mechanical properties. A WC-Ni alloy is produced by sintering tungsten carbide and nickel (Ni) as the bonding phase; a WC-Ni alloy has the properties that it becomes non-ferromagnetic when the solid solution amount of W exceeds a certain level and it has improved corrosion resistance.

6. Non-magnetic material

Substances are roughly classified as follows according to magnetic properties:

Ferromagnetic material - A substance that strongly magnetizes in the same direction as the magnetic field that is applied from outside, and retains a strong magnetism even when the magnetic field from the outside becomes zero),

Paramagnetic material - A substance that weakly magnetizes in the same direction as the magnetic field that is applied from outside, and loses magnetism when the magnetic field from the outside becomes zero, and

Diamagnetic material - A substance that magnetizes extremely weakly in the direction opposite to the strong magnetic field that is applied from outside, and loses magnetism when the magnetic field from the outside becomes zero.

When simply calling a substance a “magnetic material,” it generally refers to a “ferromagnetic material,” and a “non-magnetic material” refers to a substance that is not a “ferromagnetic material.”

IV. Specification of the Present Patent

[Detailed description of the invention]

[Technical field]

[0001]

The present invention relates to a position detector that detects the relative position between a tool of a machine tool and a workpiece by contact with the workpiece.

[Background art]

[0002]

A known device attached to a machine tool for detecting the position of a workpiece is a position detector that comprises a main body attached to the tool holder of a machine tool and a stylus (a contact body) attached to the main body, so that the position of a workpiece may be detected by bringing the stylus into contact with the workpiece. In this type of position detector, the stylus is attached to a predetermined position of the main body in a micro-movable state and includes a rod, to the tip of which a contacting portion is attached. This composition allows replacement of a whole stylus when the contacting portion of the stylus is worn or damaged.

[0003]

As a measuring method of this type of position detector, the internal contact type has been used, which detects the position of a workpiece by the cut-off of current flow when the contacting portion of the stylus contacts the workpiece and the tilting of the rod makes the energizing contact portion provided inside the position detector come off.

[0004]

Another known measuring method is the energized type (external contact type) as shown in FIG. 2. In the energized type position detector shown in FIG. 2, a battery 3 is housed in a plastic case 2 housed in a main body 1, the anode of an LED 4 is connected to the cathode of the battery 3, and the cathode of the LED 4 is connected to the main body 1. Inside the main body 1, a disk-shaped base 6 is mounted to the main body 1, electrically insulated by an insulator 7 and pressed against a support member 9 by a spring 8. The center hole of the base 6 of the main body 1 is threaded, and the base end of the rod of a stylus 5 is attached to the center hole. The portion of the support member 9 embedded in the main body 1 is threaded so that the position of the stylus 5 in relation to the main body 1 can be finely adjusted. The base 6 of the main body 1 is connected to the anode of the battery 3 by the lead wire 11. When the main body 1 of this energized type position detector is attached to the tool holder 12 of the machine tool and then the stylus 5 contacts the workpiece 13, a closed circuit passing through the machine tool is formed, so that the LED 4 is turned on and the position of the workpiece 13 is detected.

[0005]

For both the internal contact type and the energized type, a stylus used for a position detector is required to be inexpensive and to have desired hardness and abrasion resistance

among other properties. Therefore, bearing steel is often used because it has good hardenability and demonstrates excellent mechanical properties by hardening and tempering.

[0006]

[Problem to be solved by the invention]

In detecting the position of a magnetic workpiece by using the position detector as described above, even slight magnetization of the stylus causes a measurement error because the stylus in the shape of an elongated needle slightly tilts by magnetic force when it is brought toward the side of the workpiece.

In addition, as to the energized type position detector, a stylus may gradually be magnetized as energized and non-energized states are alternately repeated by opening and closing of the closed circuit, which causes a measurement error described above.

[0007]

The measurement error caused by such magnetic influence can be solved by making a stylus of a non-magnetic metal material such as austenitic stainless steel or duralumin. However, because non-magnetic metal materials generally have low hardness, wear and deformation from repeated contact with workpieces cause a measurement error.

[0008]

The present invention solves the problem of providing a position detector enabling accurate position detection, equipped with a stylus which is durable and non-magnetic not to cause a measurement error.

[Means for solving the problem]

[0009]

For the purpose of solving the above problem, a position detector according to the present invention comprises: a micro-movable stylus held in a predetermined stable position in an electrically insulated state; and a main body including a contact detection circuit connected to the stylus. By the position detector according to the present invention, contact between the stylus and a workpiece is electrically detected as a result of formation of a closed circuit including the contact detection circuit via the workpiece when a contacting portion of the stylus contacts the workpiece and the contacting portion of the stylus is made of a non-magnetic material containing tungsten carbide and nickel binder.

[Effect of the invention]

[0010]

The present invention, with the contacting portion of the stylus made of a non-magnetic material, prevents the stylus from tilting due to the magnetic force of a magnetic workpiece and prevents the stylus from being magnetized by opening and closing of the contact detection circuit. The present invention uses a non-magnetic material containing tungsten carbide and a nickel binder for the contacting portion of the stylus, which provides high hardness to the contacting portion to prevent deterioration of position detection accuracy due to wear or deformation of the contacting portion.

As described above, the present invention is equipped with a non-magnetic stylus that is durable and does not cause a measurement error, making accurate position detection possible.

[Brief description of the drawings]

[0011]

FIG. 1 is a perspective view showing a stylus according to an embodiment of the present invention; and

FIG. 2 is a side view of a position detector according to an embodiment of the present invention showing the method to detect the position using the position detector.

[Description of embodiments]

[0012]

FIG. 1 and FIG. 2 are diagrams showing an embodiment of the present invention. FIG. 2 shows the overall structure of the position detector. A movable stylus 5 is mounted on a main body 1 in an electrically insulated state and held in a predetermined stable position. The stylus 5 is connected to contact detection circuits 3 and 4. When a contacting portion of the stylus 5 contacts a workpiece 13, a closed circuit including the workpiece 13 and the contact detection circuits 3 and 4 is formed and current flows, by which the relative position of the workpiece 13 to a tool holder 12 is detected.

The stylus 5 shown in FIG. 1 includes a spherical contacting portion 16 and a rod 17. The rod 17 is manufactured by cutting beryllium copper into a predetermined size and age-hardening it at a temperature of about 350 degrees Celsius. The contacting portion 16 is made by adding 4-16% nickel as a binder to fine tungsten carbide powder, melting the nickel at high temperature to mix the tungsten carbide and nickel, sintering the mixture into a sphere in a mold, polishing the peripheral surface of the sphere into an almost a perfect circle, and welding an external thread 18 of stainless steel SUS304 by electric resistance welding to one position on the peripheral surface. Most preferably, the amount of nickel added as a binder is 6%.

[0013]

SUS304 is basically non-magnetic but magnetizes during machining. Therefore, it is restored to a non-magnetic state by applying solution heat treatment after machining. The external thread 18 may be bonded to the rod 17 with an adhesive such as an epoxy adhesive instead of electric resistance welding including spot welding. When bonding by an adhesive, a hole may be provided by electric discharge machining on the peripheral surface of the spherical contacting portion 16, and the external thread 18 may be fitted in the hole for bonding. The contacting portion 16 is fixed to the end of the rod 17 by fitting the external thread 18 into the internal thread hole provided at the end of the rod 17.

[0014]

The rod 17 has a larger diameter at the base end, and by fitting an external thread 19 provided at the base end into an internal thread of a central hole provided at a base 6 of the main body 1, the stylus 5 is attached to the main body 1 in an electrically insulated state by insulators 7. In addition, the stylus 5 is energized and held by the spring 8 in a movable and neutral position relative to the main body 1.

Examples of the material of the rod 17 include the above-mentioned beryllium copper, austenitic stainless steel, duralumin, and the like. The entire rod 17 may also be made of non-magnetized SUS304 or the like. A material obtained by age hardening beryllium copper has

high mechanical strength and is not easily deformed.

[0015]

Since the contacting portion 16 of the stylus 5 has a structure in which the external thread 18 is fitted into the internal thread hole provided at the end of the rod 17, it is replaceable and can be supplied separately. Similarly, since the rod 17 also has a structure in which the external thread 19 provided at the base end of the rod 17 is fitted into the internal thread of the central hole provided at the base 6 of the main body 1, it is replaceable and can be supplied separately.

[0016]

The position detector according to the present embodiment, with the stylus 5 made of a non-magnetic material, prevents the stylus from tilting due to the magnetic force of the workpiece 13, and prevents the stylus from being magnetized by opening and closing of the contact detection circuits 3 and 4. In addition, a non-magnetic material containing tungsten carbide and a nickel binder used in the contacting portion 16 of the stylus 5 provides high hardness to the contacting portion to prevent deterioration of position detection accuracy due to wear or deformation of the contacting portion.

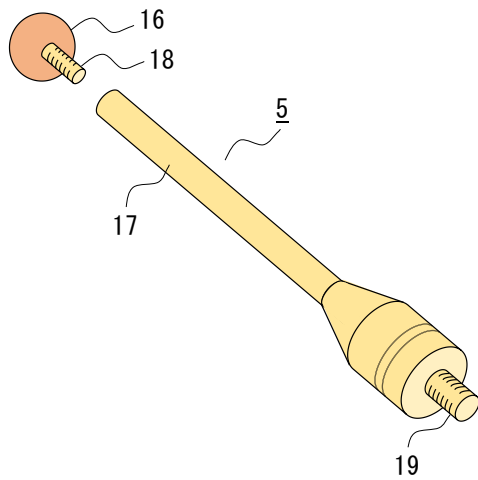
[0017]

The position detector according to the present embodiment prevents even a stylus with an elongated rod from tilting by magnetic force. While elongated rods are susceptible to bending deformation by external force, by using a hard material obtained by age hardening beryllium copper as a material for a rod, deterioration of measurement accuracy due to bending deformation of the rod can be prevented. By making the contacting portion spherical, accurate position can be detected from all directions.

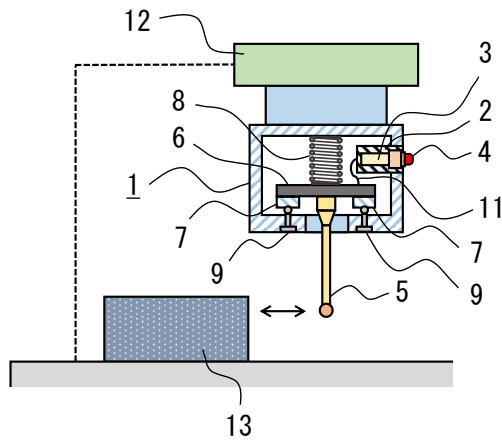
[Explanations of letters or numerals]

1	Main body	2	Plastic case	3	Battery
4	LED	5	Stylus	6	Base
7	Insulator	8	Spring	9	Support member
11	Lead wire	12	Tool holder	13	Workpiece
16	Contacting portion	17	Rod	18, 19	External threads

[FIG. 1]



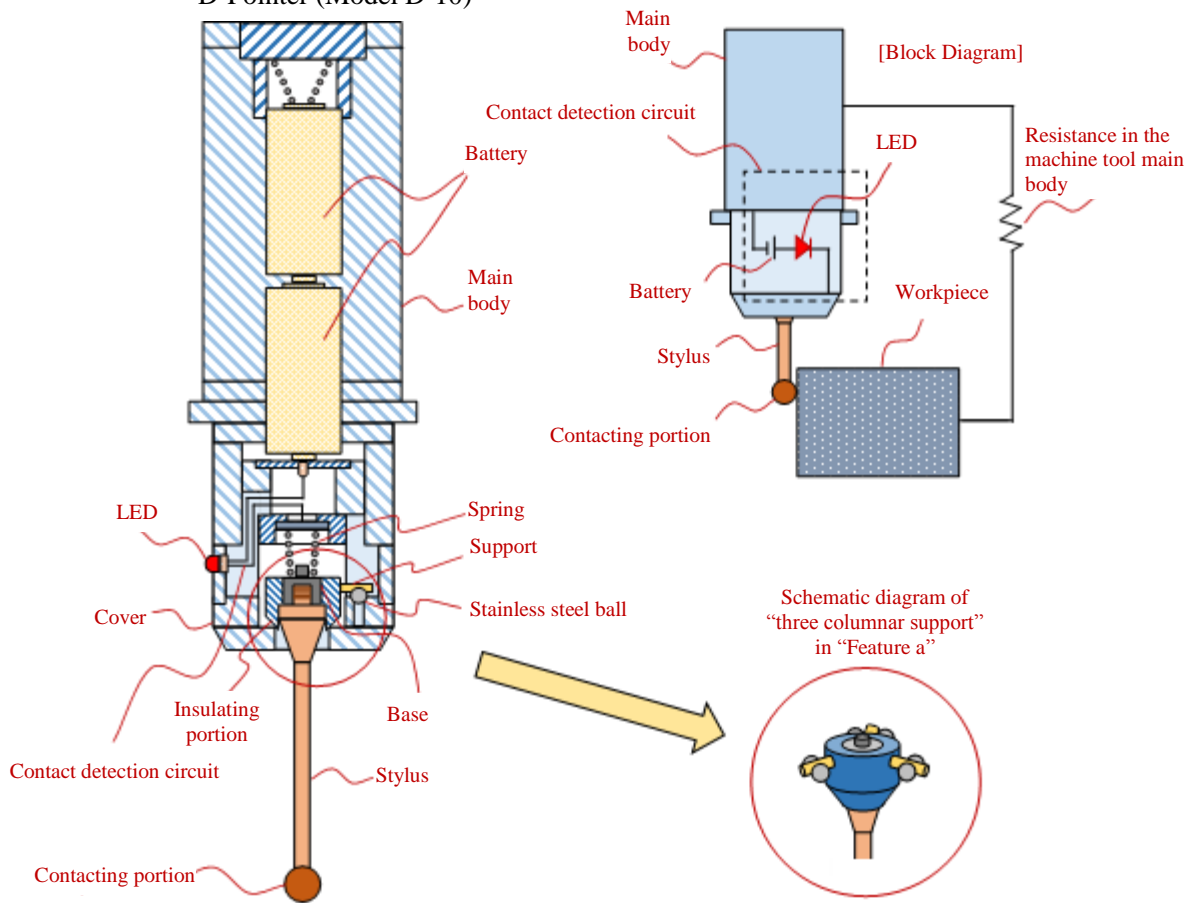
[FIG. 2]



V. Defendant's Position Detector and Defendant's Stylus

1. Structure of Defendant's Position Detector and explanatory diagram

D-Pointer (Model D-10)

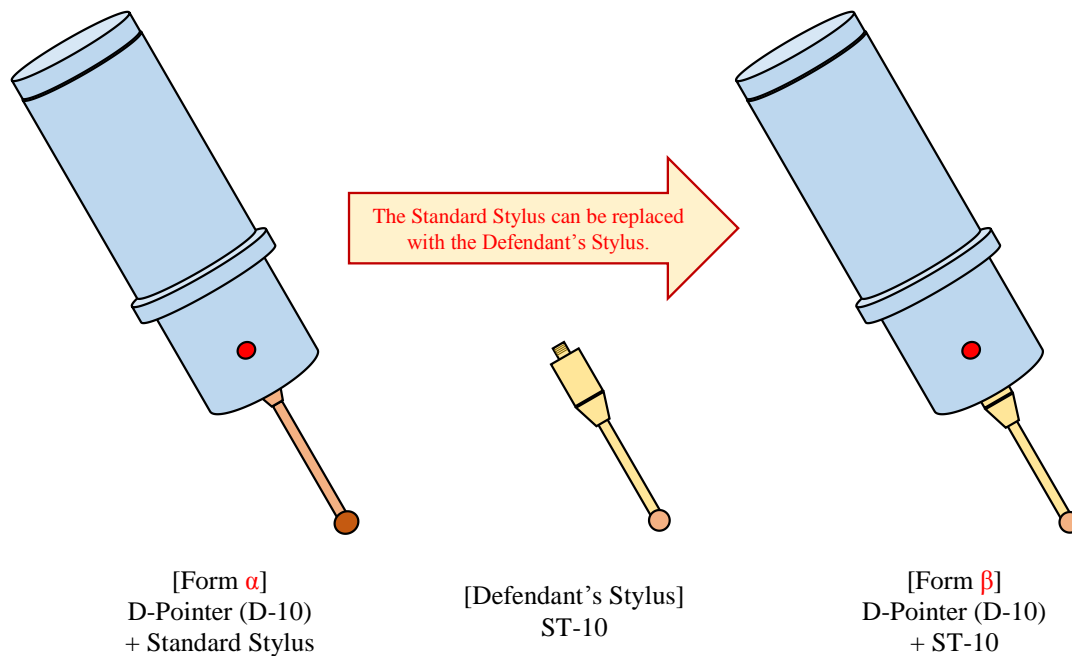


The Defendant's Position Detector is an "energized type" that measures the position

of a workpiece by detecting current flow that occurs when a closed circuit is formed by the contact of the contacting portion of the contact body with a workpiece or any other object to be measured.

The Defendant's Position Detector is equipped with an SUS (stainless steel) stylus as the standard equipment (the "Standard Stylus"). The Standard Stylus can be replaced with a replacement part, the stylus model ST-10 (the Defendant's Stylus), and the contacting portion of the Defendant's Stylus is made of a "non-magnetic material A" containing tungsten carbide and a nickel binder.

Hereinafter, the Defendant's Position Detector with the Standard Stylus attached will be referred to as the "Defendant's Position Detector in Form α " and the Defendant's Position Detector with the Defendant's Stylus attached will be referred to as the "Defendant's Position Detector in Form β ."



2. Structure of the Defendant’s Position Detector in Form β

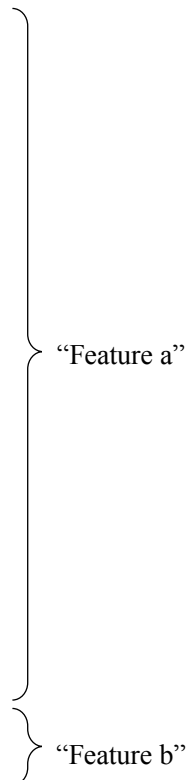
A position detector comprising:

a stylus held in a predetermined stable position in an electrically insulated state, wherein three columnar supports are fixed to a micro-movable base via an insulating portion and extend from the center of the base at an angle of three divisions in the circumferential direction, and the three supports are pressed by a spring and placed between a set of two steel balls respectively, and the three supports are mounted to the base between the line from a cathode of a built-in battery via a contact detection circuit and the spring and the line from the anode of the battery via the main body, the steel balls and the supports; and

the contact detection circuit including an LED electrically connected to the stylus,

wherein contact between the stylus and a workpiece is electrically detected by the contact detection circuit as a result of formation of a closed line including the stylus, the workpiece, the resistance in the machine tool main body and the contact detection circuit when the sphere at the tip of the stylus contacts the workpiece; and

wherein the contacting portion of the stylus is made of a non-magnetic material containing tungsten carbide and a nickel binder.



VI Fulfillment of the elements of the Present Invention

The Defendant’s Position Detector in Form α fulfills “Feature A” of the Present Invention, but does not fulfill “Feature B”.

The Defendant’s Position Detector in Form β fulfills “Feature A” and “Feature B” of the Present Invention.

VII Gist of Pony’s (the plaintiff’s) allegations

1. Infringement (indirect infringement) of the Plaintiff’s Patent Right by manufacturing and selling the Defendant’s Styluses

The manufacture and sale of the Defendant’s Styluses by the defendant constitute indirect infringement of the Plaintiff’s Patent Right (items (i) and (ii), Article 101 of the Patent Act) as follows.

- (1) The Defendant’s Position Detector in Form β fulfills all the elements of the Present Invention and falls within its technical scope. If a user who possesses a Defendant’s Position Detector attaches a Defendant’s Stylus to the Defendant’s Position Detector, such an act by the user should be considered as “the producing of the said product” regarding the Defendant’s Position Detector in Form β that falls within the technical scope of the Present Invention which is an invention of a product.
- (2) The Present Invention concerns using the contacting portion at the tip of the stylus made of a non-magnetic cemented carbide to solve the problem of measurement error in a

position detector that adopts the energized type measuring method, arising from the stylus becoming magnetic, which causes the workpiece and the stylus to attract each other through magnetic force. Since the need for the stylus to be a non-magnetic cemented carbide arises only when the energized type measurement method is adopted, the Defendant's Stylus is only supposed to be attached to the Defendant's Position Detector, which is an energized type position detector. Although the Defendant's Stylus can be attached to the internal contact type position detector, it does not have the problem of the stylus becoming magnetic due to energization. Therefore, attaching the Defendant's Stylus as a stylus to the internal contact type position detector is not an economical, commercial or practical application of the Defendant's Stylus.

Therefore, since the Defendant's Stylus falls under an "product to be used exclusively for the producing of the said product" pertaining to the Defendant's Position Detector in Form β , the manufacture and sale of the Defendant's Styluses by the defendant constitute indirect infringement of the Plaintiff's Patent Right (item (i), Article 101 of the Patent Act).

- (3)(a) Even if the Defendant's Stylus does not fall under a "product to be used exclusively for the producing of" the Defendant's Position Detector in Form β , the Defendant's Stylus falls under a "product ... to be used for the producing of" the Defendant's Position Detector in Form β .

In addition, the Defendant's Stylus is not a standard product or popular product, and its use is limited to attachment to the position detector manufactured by the defendant, so it cannot be said to be a product "widely distributed within Japan."

- (b) The problem to be solved by the Present Invention is the prevention of measurement error arising in a position detector that adopts the energized type measuring method in which the stylus becomes magnetic, causing the workpiece and the stylus to attract each other through magnetic force, and measurement error due to the wear and deformation of the stylus caused by repeated contact and separation between the stylus and workpieces. As a means to solve this problem, the Present Invention adopts a structure "made of a non-magnetic material containing tungsten carbide and a nickel binder" in "Feature B".

Therefore, the Defendant's Stylus falls under the category of "indispensable for the resolution of the problem" by the Present Invention since it can be said that the Defendant's Stylus, in which the contacting portion of the stylus is made of "non-magnetic material A" containing tungsten carbide and a nickel binder, is a characteristic component that directly brings about the unique structure characterizing the characteristic technical means of the Present Invention newly disclosed in the Present Invention.

- (c) Since the Defendant's Stylus is mainly used for the Defendant's Position Detector, it is highly probable that those who purchase the Defendant's Stylus and who are not exceptional will use the Defendant's Stylus by attaching it to the Defendant's Position Detector. It should be noted that the defendant was

manufacturing and selling the Defendant's Styluses while being aware of the existence of the facts stated above by the time the Demand Letter was sent, at the latest, and was aware that the Present Invention was a "patented invention" and the Defendant's Stylus was "used for the working of the invention."

- (d) According to the above, the manufacture and sale of the Defendant's Styluses by the defendant constitute indirect infringement of the Plaintiff's Patent Right (item (ii), Article 101 of the Patent Act).

2. Infringement (indirect infringement) of the Plaintiff's Patent Right by manufacturing and selling the Defendant's Position Detectors

As stated above, the act by a user possessing the Defendant's Position Detector of attaching the Defendant's Stylus to the Defendant's Position Detector falls under "the producing of" the Defendant's Position Detector in Form β that falls within the technical scope of the Present Invention. Therefore, the Defendant's Position Detector falls under a "product to be used ... for the producing of the said product" pertaining to the Defendant's Position Detector in Form β .

In addition, to solve the problem by the Present Invention, it can be said that both adopting the energized type measurement method of the position detector and making the stylus of a non-magnetic material are indispensable, so the Defendant's Position Detector is also an article that is "indispensable for the resolution of the problem" by the Present Invention.

Furthermore, it should be noted that the defendant was manufacturing and selling the Defendant's Position Detectors while being aware that, by the time the Demand Letter was sent, at the latest, the Present Invention was a "patented invention" and the Defendant's Position Detectors were "used for the working of the invention." Therefore, the defendant's manufacture and sale of the Defendant's Position Detectors constitute indirect infringement of the Plaintiff's Patent Right (item (ii), Article 101 of the Patent Act).

3. Necessity of injunction

The necessity for injunction against the manufacture and sale of the Defendant's Styluses and the Defendant's Position Detectors is high given the fact that the defendant's manufacture and sale of them constitute indirect infringement of the Plaintiff's Patent Right and that the defendant has already been manufacturing and selling these products.

VIII Gist of Donkey's (the defendant's) arguments

1. Regarding the allegation that the manufacture and sale of the Defendant's Styluses infringe the Plaintiff's Patent Right (indirect infringement)

- (1) The Defendant's Stylus is compatible with the internal contact type position detector manufactured by the defendant in addition to the Defendant's Position Detector, and can be used by attaching it to the position detector mentioned above. This point is also explained in the catalog for the Defendant's Stylus.

In addition, since cemented carbide has excellent abrasion resistance and corrosion resistance, there is a necessity to use a stylus made of cemented carbide even in the internal contact type position detector because it has the advantage of preventing measurement errors resulting from wear and deformation caused by repeated contact with a workpiece that is very hard. In fact, some of the defendant's customers use the Defendant's Stylus attached to an internal contact type position detector.

Therefore, because the Defendant's Stylus has an economical, commercial or practical use application as a stylus for an internal contact type position detector, it does not fall under a "product to be used exclusively for the producing of" the Defendant's Position Detector in Form β (item (i), Article 101 of the Patent Act).

- (2) A stylus is a tool with a tip that comes into contact with an object, and has been widely used by attaching it to a position detector for the purpose of detecting the position of an object. Like any other styluses, the Defendant's Stylus is not different from the conventional ones in that it is a product that is attached to a position detector and has the function of contacting an object for position detection.

Therefore, it can be said that the Defendant's Stylus is a standard product and a popular product "widely distributed within Japan" (quotation from item (ii), Article 101 of the Patent Act).

- (3) The defendant is selling the Defendant's Position Detectors, with the SUS styluses (the Standard Styluses) attached as the standard equipment to the Defendant's Position Detectors. The Defendant's Stylus can also be used by attaching it to an internal contact type position detector, and in fact, there are cases where they are used by attaching them to internal contact type position detectors. However, the defendant does not know exactly in how many cases, or to what extent, the Defendant's Styluses are attached to and used with the Defendant's Position Detectors.

Therefore, it cannot be said that the defendant manufactured and sold the Defendant's Styluses knowing that they were "used for the working of the invention."

- (4) Based on the above, the plaintiff's allegation that the manufacture and sale of the Defendant's Styluses by the defendant constitute indirect infringement of the Plaintiff's Patent Right (items (i) and (ii), Article 101 of the Patent Act) is groundless.

2. Regarding the allegation that the manufacture and sale of the Defendant's Position Detectors infringe the Plaintiff's Patent Right (indirect infringement)

- (1) The Present Invention solves the problem of the stylus being magnetized in the conventional energized type position detector by making the stylus of a non-magnetic material, and the Defendant's Stylus is the characteristic component that directly brings about the unique structure that characterizes the characteristic technical means of the Present Invention.

The defendant is selling the Defendant's Position Detectors, with SUS styluses (the Standard Styluses) attached as the standard equipment to the Defendant's Position Detectors. As this fact shows, the Defendant's Position Detectors do not prevent

measurement error caused due to the stylus wear, deformation, or magnetization caused by repeated contact with and separation from workpieces and the like.

Moreover, energized type position detectors having the same structure as the Defendant's Position Detector existed before the filing of the Present Patent, and the structure of the Defendant's Position Detector was publicly known.

Therefore, the Defendant's Position Detector is not an article "indispensable for the resolution of the problem" by the Present Invention (item (ii), Article 101 of the Patent Act).

- (2) Based on the above, the plaintiff's allegation that the manufacture and sale of the Defendant's Position Detectors by the defendant constitute indirect infringement of the Plaintiff's Patent Right (item (ii), Article 101 of the Patent Act) is groundless.

3. Regarding the allegation of necessity of injunction

If the manufacture and sale of the Defendant's Styluses were to be totally suspended, the legal use of the Defendant's Styluses attached to internal contact type position detectors would also be restricted, which is not reasonable. Also, there is no reason to restrict the manufacture and sale of the Defendant's Position Detectors that merely have a publicly-known structure.

Therefore, there is no need for injunction because the plaintiff's demand for injunction against the manufacture and sale of the Defendant's Styluses and the Defendant's Position Detectors is an excessive demand that obviously exceeds the scope necessary "to stop or prevent such infringement" stipulated in paragraph 1, Article 100 of the Patent Act.

IX Reference text of Japanese law

(Right to seek injunction)

Article 100

- (1) A patentee or exclusive licensee may demand a person who infringes or is likely to infringe the patent right or exclusive license to stop or prevent such infringement.
- (2) In making a demand under the preceding paragraph, the patentee or exclusive licensee may demand measures necessary for the prevention of such infringement including the disposal of products constituting such act of infringement (including, in the case of a patented invention of a process of producing products, products produced by the act of infringement; the same shall apply in Article 102 (1)) and the removal of facilities used for the act of infringement.

(Acts Deemed to constitute infringement)

Article 101 The following acts shall be deemed to constitute infringement of a patent right or an exclusive license:

- (i) where a patent has been granted for an invention of a product, acts of producing, assigning, etc., importing or offering for assignment, etc. any product to be used exclusively for the producing of the said product as a business;
 - (ii) where a patent has been granted for an invention of a product, acts of producing, assigning, etc., importing or offering for assignment, etc. any product (excluding those widely distributed within Japan) to be used for the producing of the said product and indispensable for the resolution of the problem by the said invention as a business, knowing that the said invention is a patented invention and the said product is used for the working of the invention;
- (*) The latest local applicable laws and regulations should be applied.